

CLAIMS

1. A control rod (2) for a boiling water reactor comprising four absorber blades (6, 7, 8, 9) forming an orthogonal cross with a cruciform centre (10), where the width of the absorber blades coincides with the radial direction of the control rod and the length of the absorber blades coincides with the axial direction of the control rod, and wherein each one of the absorber blades comprises an absorber material distributed in the longitudinal direction, whereby a mean value of the quantity of absorber material per unit of length of the control rod is smaller in the upper part of the control rod than in the lower part thereof, characterized in that each absorber blade in its upper part (15) comprises an inner part arranged radically inside an outer part, where the outer part is provided with the absorber material whereas the inner part lacks absorber material, whereby said inner part, in at least some portion, constitutes at least one-fourth of the width of the absorber blade.
2. A control rod according to claim 1, characterized in that the length of the upper part (15) constitutes at most one-third of the length of the absorber blade.
3. A control rod according to claim 1 or 2, characterized in that said inner part in at least some portion constitutes at least one-third of the width of the absorber blade.
4. A control rod according to any of the preceding claims, characterized in that a plurality of recesses (17, 17a, 17b, 17c, 18) are arranged in said inner part of the absorber blade.
5. A control rod according to claim 4, characterized in that a plurality of the recesses (17, 18) are arranged along the cruciform centre (10), whereby the recesses (17) in the

0366553-1100T-88599350

20

Sub B3

Sub A1

30

35

upper part (15) are wider than at least the majority of the recesses (18) in the lower part (16) of the absorber blade.

6. A control rod according to any of the preceding claims, characterized in that the absorber blades comprise a plurality of radially arranged channels (13, 14) in which the absorber material is arranged, whereby at least the majority of the channels (13) in the upper part (15) are shorter than the channels (14) in the lower part (16) of the absorber blades.

7. A control rod according to claim 6, characterized in that the channels (13, 14) in the upper part (15) and the lower part (16) have a diameter (d) of essentially equal size.

8. A control rod according to any of claims 1-5, characterized in that the absorber blades (6, 7, 8, 9) comprise a plurality of channels (22, 23, 24), arranged axially in relation to the control rod, in which the absorber material is arranged, whereby at least the majority of the channels (22) are arranged radially outside one or more channels (23, 24) which are arranged nearest the cruciform centre (10).

9. A control rod according to claim 8, characterized in that the channels (23, 24) arranged nearest the cruciform centre (10) are shorter than the channels (22) arranged in outer part of the absorber blades (6, 7, 8, 9), arranged radially outside said cruciform centre.

10. A control rod according to claim 9, characterized in that the channels (23, 24) arranged nearest the cruciform centre (10) and the channels (22) arranged in the outer part of the absorber blades (6, 7, 8, 9), arranged radially outside said cruciform centre, have a diameter (d) of essentially equal size.

